

REMARKS

Initially, Applicant would like to express his appreciation to the Examiner for indicating the allowability of the subject matter of claims 14 and 22. By this Reply, and in order to expedite prosecution and allowance of this application, Applicant has canceled claims 20 and 22, and has incorporated the respective subject matter into original independent claim 19. (Applicant has not included the subject matter of intervening claim 21, as it does not appear to contribute to the allowable subject matter of claim 22.) Claim 19, as amended, specifically recites the allowable subject matter of claim 22, as identified by the Examiner.

In response to the Examiner's statement of reasons for indication of allowable subject matter, Applicant wishes to clarify the record with respect to the basis for the patentability of the identified claims. In this regard, while Applicant does not disagree with the Examiner's indication that certain identified features are not disclosed by the references, Applicant submits that each of the claims in the present application recite a particular combination of features, and that the basis for patentability of each of these claims is based on the totality of the particular features recited therein.

Upon entry of the present amendment, the specification will have been amended to replace the title with a new title, ---Device for Capturing Three-Dimensional Images with Independently Controllable Groups of Photoelectric Conversion Elements---, as required by the Examiner.

Also upon entry of the present amendment, claims 20 and 22 will have been canceled, without prejudice and without disclaimer of the subject matter, and claims 23-24 will have been submitted for the Examiner's consideration. Claims 1-4, 5-19 and 21 will have been amended to more clearly recite the claimed subject matter and to enhance the clarity of the claim language, while

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not substantially affecting or narrowing the scope of these claims. Applicant respectfully submits that all pending claims are now in condition for allowance.

In the above-referenced Official Action, the Examiner rejected claims 1-8, 10-13 and 15-18 under 35 U.S.C. § 102(e) as being anticipated by NUMAZAKI et al. (U.S. Patent No. 6,292,169). The Examiner rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over NUMAZAKI et al. The Examiner rejected claims 19-21 under 35 U.S.C. § 103(a) as being unpatentable over NUMAZAKI in view of UMEDA et al. (U.S. Patent Application Publication No. 2002/0145669). Applicants respectfully traverse these rejections, at least for the reasons stated below.

NUMAZAKI et al. disclose an information input apparatus that attains pointing in a three-dimensional space using a CCD image. *See* col. 1, lines 8-10. A CCD type area image sensor 21 acquires light reflected from a target object irradiated with illumination light, such that odd lines are used for acquiring an image of the object irradiated with light and even lines are used for acquiring an image of the object not irradiated with illumination light. *See* Col. 6, lines 36-41. The objective object image can then be extracted from the background by calculating a difference between the respective image signals of the odd and even lines. *See* col. 8, lines 9-17.

However, NUMAZAKI et al. do not teach or suggest a number of elements recited in the combinations of the independent claims. For example, NUMAZAKI et al. do not teach an electric charge integrating processor (recited in claims 1 and 12), which repeatedly drives an electric charge transfer processor and integrates an electric charge relating to distance information in a holding unit and/or transfer unit. Rather, NUMAZAKI et al. teach transferring image signals from odd and even lines to vertical charge transfer means. Similarly, NUMAZAKI et al. do not teach an electric charge

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accumulating processor (as recited in claim 11), which repeatedly drives an electric charge transfer electrode control processor and repeatedly transfers electric charge generated in certain groups of optical sensors to accumulate electric charge in an electric charge transfer unit. The portions of NUMAZAKI et al. cited by the Examiner do not address these claim elements.

Further with respect to claim 12, NUMAZAKI et al. do not teach a transfer operation control processor that controls horizontal and vertical transfer units, such that the horizontal transfer unit is driven only when an electric charge corresponding to the effective horizontal lines is transferred to the horizontal transfer unit. Rather, NUMAZAKI et al. disclose calculating a difference between respective charges in the odd and even lines, so that the horizontal transfer unit is apparently driven whenever the charges generated with illumination (i.e., odd lines) and without illumination (i.e., even lines) are transferred to the horizontal transfer unit. *See, e.g.*, col. 11, lines 46-67.

Accordingly, since NUMAZAKI et al. do not disclose each and every element of Applicant's claimed invention, withdrawal of the rejections under 35 U.S.C., § 102(e) based on NUMAZAKI et al. is respectfully requested.

With regard to claims 19-21, Applicant has canceled claim 20, without prejudice and without disclaimer of the subject matter, and has amended claim 19 to include the limitations of allowable claim 22 and intervening claim 20. Although Applicant disagrees with the Examiner stated grounds of rejecting these claims under 35 U.S.C. § 103(a), as being unpatentable over NUMAZAKI et al. In view of UMEDA et al., as discussed above, Applicant has amended claim 19 to include the allowable subject matter merely in the interests of advancing prosecution and expediting allowance.

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Accordingly, Applicant respectfully submits that the Examiner's rejection of these claims is now moot.

With regard to claims 2-10, 13-18 and 23-24, Applicant asserts that they are allowable at least because they depend, directly or indirectly, from independent claims 1 and 12, respectively, which Applicant submits have been shown to be allowable.

In view of the herein contained amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of previously asserted rejections set forth in the Official Action of February 5, 2004, together with an indication of the allowability of all pending claims, in due course. Such action is respectfully requested and is believed to be appropriate and proper.

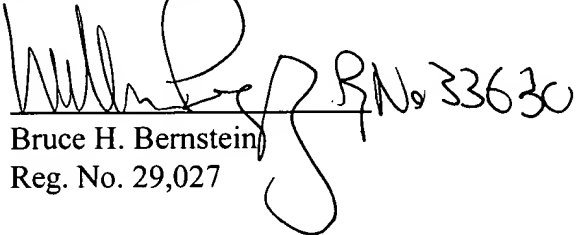
Any amendments to the claims in this Reply, which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions concerning this Reply or the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

July 6, 2004
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Respectfully submitted,

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